

SHORT REPORT

Circumcision practice patterns in South Korea: community based survey

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Objectives: To assess the prevalence of circumcision in South Korean young men dwelling in the community, investigate attitudes and perspectives about circumcision, and how they perceive physician involvement in the decision process.

Methods: Between May and November 2001, this cross sectional survey was performed. Of 27 202 men aged 20 years dwelling in the community of Choong-chung South Province, 2700 were randomly selected at a 10.0% sampling fraction after a sampling process by census district and a total of 1742 (64.5%) agreed to participate in the study. These subjects completed self administered questionnaires and we included 1674 men (a response rate 62.0%) in the study.

Results: The overall proportion of circumcised was 1306 (78.0%) and an additional 192 (11.5%) wished to be circumcised later. Circumcision was carried out mostly during their elementary and middle school years. Of men circumcised, the decision whether to circumcise was most often made by their parents. Of the subjects, 75.0% believed that circumcision is necessary, while 2.9% believed it to be unnecessary. Among those who believed circumcision to be necessary, the most common reason was to improve penile hygiene (89.1%).

Conclusions: Our results indicate a positive attitude toward circumcision in South Korean men, linking it with hygienic practices. Circumcision in South Korea depends on the perpetuation of cultural beliefs that support it.

Although circumcision remains controversial, it is still a common procedure. The percentage of circumcised males varies by geographic location, by religious affiliation, and to some extent, by socioeconomic classification.¹ Currently, about one quarter of men in the world are circumcised, largely concentrated in the United States, Canada, countries in the Middle East and Asia with Muslim populations, and large portions of Africa.²

South Korea has possibly the largest absolute number of teenage or adult circumcisions anywhere in the world.³ Because circumcision started through contact with the American military during the Korean War, South Korea has an unusual history of circumcision and circumcision has traditionally been practised. However, there are few data to help estimate accurately the prevalence of circumcised males in South Korea because there has been no real community based epidemiological study of circumcision. The present study sought to assess the prevalence of circumcision in Korean young men dwelling in the community of Choong-chung South Province, investigate attitudes and perspectives about circumcision, and how they perceive physician involvement in the decision process.

METHODS

Since South Korea has adopted the conscription system, all men should be examined at the Military Manpower Administration when they are 20 years old. In 2001, 27 202 men aged 20 years lived in the community of Choong-chung South Province. Between May and November 2001, this cross sectional survey was performed separately from the overall military fitness examination. Of men aged 20 years dwelling in the community, 2700 were randomly selected at a 10.0% sampling fraction after a sampling process by census district.

After an introduction to the project which explained that this study was not given as part of an overall military fitness examination and that the subjects' responses were kept anonymous, 1742 men (64.5%) agreed to participate in the study. The responders gave written, informed consent and the subjects' responses were kept unsigned. At study enrolment, all had physical examinations that included genital examination to evaluate circumcision status and completed self administered questionnaires in written form. Items consisted of demographic information, circumcision status of participants, age at the time of circumcision, reasons that influenced the decision, and information or perspectives about circumcision. Questions were presented in a single choice format or fill in the blank. A response was considered invalid if the question was left unanswered or if more than one answer was marked for a self administered questionnaire. Overall, the study included 1674 men (a response rate 62.0%).

Survey responses were coded and descriptive analyses were performed. Score test for trends was used to compare the responses between circumcised and uncircumcised men. Statistical analyses were performed using a commercially available analysis programme and a 5% level of significance was used for all statistical testing.

RESULTS

Rates of circumcision

Among the 1674 men in this study, the overall proportion circumcised was 1306 (78.0%) and 192 (11.5%) wished to be circumcised later. There were no discordant results between self reported circumcision status and results of the physical examination. A total of 1341 (80.1%) responded that they were willing to request circumcision for their sons if they would father sons. About 16% responded that they did not determine yet. Circumcised men were more willing to request circumcision for their sons than uncircumcised men (85.4% versus 61.4%, $p < 0.001$).

Age at the time of circumcision

Of 1306 men circumcised, 7.8% were circumcised at age <10 years and 15.0% were circumcised at age >15 years. At age 10–15 years, 928 (55.2%) were circumcised. Only about 1.0% of the men were circumcised within 1 year of birth (fig 1). Of 1674 men, a total of 1119 (67.0%) thought that the most appropriate period to circumcise was during the elementary

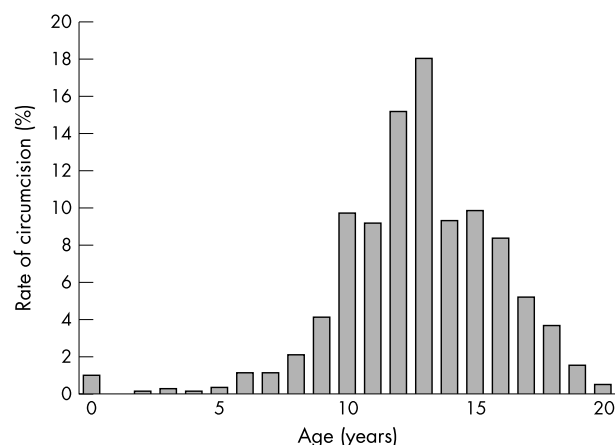


Figure 1 Ages at which circumcision was performed in South Korean men.

years. Other periods, in order of frequency, were neonatal period ($n = 365$; 21.8%) and middle school years ($n = 106$; 6.3%).

Decision of circumcision

Of 1306 men circumcised, the decision whether to circumcise was most often made by their father ($n = 462$; 35.4%); followed by their mother ($n = 418$; 32.0%); themselves ($n = 363$; 27.8%); and a healthcare provider ($n = 63$; 4.8%). When we asked whose choice should be most important to decide whether to circumcise, the majority (82.8%) of 1674 men who were questioned responded that the decision of the child should be most important (circumcised versus uncircumcised men; 81.3% versus 88.0%). Only 156 (9.3%) responded that the advice of the healthcare provider would be most important in deciding whether to circumcise or not.

Support or objection to circumcision

Of 1674 men who were questioned, 1255 (75.0%) believed that circumcision is necessary, while 49 (2.9%) believed it to be unnecessary. Circumcised men rather than uncircumcised men felt more positively that circumcision is necessary (81.0% versus 53.5%, $p < 0.001$). We asked those who believed that circumcision is necessary why they felt they had to be circumcised. The principal reasons given for circumcision were “to improve penile hygiene” (89.1%), followed by “to reduce peer pressure” (6.2%) and “to improve future sexual potency” (2.1%). Among those who did not believe circumcision to be necessary, the most common reason was “no medical benefit”

(59.6%), followed by “the expectation of spontaneous retraction of the prepuce with age” (26.9%) and “afraid of the complications” (9.6%).

Viewpoints toward medical benefits and other common beliefs about circumcision

When citing medical benefits and common beliefs, most (71.1%) responded that circumcision could help penile hygiene. Circumcised men rather than uncircumcised men felt more positively that circumcision could help penile hygiene (76.0% versus 53.8%, $p < 0.001$). While 40.6% regarded circumcision as a rite of passage to adulthood, 42.4% responded that they did not know. Regarding other questions about the prevention of cancers or infections of others, almost more than half of the subjects responded that they did not know. The results are summarised in table 1.

DISCUSSION

Circumcision has benefits and advantages as well as risks and disadvantages. Reported benefits of circumcision include reduction in the risk of penile cancer, urinary tract infections, and sexually transmitted diseases.² However, risks associated with circumcision such as bleeding, penile injury, local infection, and the consequences of the pain experience are valid concerns that require appropriate responses.² In 1995, the American Academy of Pediatrics (AAP) Committee on Bioethics stressed the importance of involving children in decisions concerning their health care.⁴ The committee counselled physicians to view children as people in their own right. Although the AAP Committee on Bioethics is specifically concerned with newborn circumcision, the committee's concern with children's involvement is very appropriate in non-therapeutic circumcision of adolescents as practised in South Korea.

South Korea has an unusual history of circumcision. Although circumcision in South Korea has been strongly influenced by American culture, it has never been predominantly neonatal. It is unclear why South Korean circumcision has never been neonatal, in stark contrast with the practice in the United States.⁵ Pang and Kim⁵ blamed South Korean doctors for high circumcision rate since the mistaken and outdated notions about circumcision and lack of knowledge of phimosis by physicians were a leading contributory factor. In our study, however, the decision whether to circumcise or not was most often made by parents or children. The healthcare providers made only 4.8% of the decision. Furthermore, 82.8% of the subjects thought the choice of the child should be most important in the decision making, while only 27.8% of these individuals actually made that choice. Since the operation is

Table 1 Responses to questions about medical benefits and other common notions of circumcision

Questions	Responses*		
	Yes	No	I don't know
Do you think that circumcision			
can help penile hygiene?	1190 (71.1)	35 (2.1)	449 (26.8)
can prevent penile cancer?	743 (44.4)	48 (2.9)	883 (52.7)
can prevent urinary tract infection?	694 (41.5)	59 (3.5)	921 (55.0)
can prevent sexually transmitted infection?	669 (40.0)	179 (10.7)	826 (49.3)
can prevent AIDS?	364 (21.7)	365 (21.8)	943 (56.3)
can prevent cervical cancer of your partner?	398 (23.8)	218 (13.0)	1058 (63.2)
can prevent genital infection of your partner?	538 (32.1)	123 (7.3)	1013 (60.5)
can prevent premature ejaculation?	246 (14.7)	285 (17.0)	1143 (68.3)
can enhance sexual pleasure?	199 (17.9)	234 (14.0)	1141 (68.2)
can enhance sexuality?	246 (14.7)	338 (20.2)	1090 (65.1)
is a rite of passage to adulthood?	679 (40.6)	284 (17.0)	710 (42.4)

*Data presented are number (%) of answers.

performed on older males in South Korea, we believe that their criticism was somewhat exaggerated.

The timing of circumcision may be of questionable medical value. The child is no longer a part of the decision making process when circumcision is performed during the neonatal period, which may have been directed toward the inhumanity. Neonatal circumcision subjects male infants to be an operation that they may well reject if they were old enough to consider its advantages and disadvantages. However, urinary tract infections are higher in infancy than during the other period, balanoposthitis is more common during the early childhood, and there are potential benefits including local anaesthesia, no suture, low complication rate, low cost, no memory of the event, and fast healing time when circumcision is performed during the neonatal period.^{1,2}

Contrary to previous reports,^{3,5} we did not find that many men accepted the procedure as a "rite of passage" or "peer pressure." In addition, they did not believe that circumcision is good for the prevention of premature ejaculation or prolonging of intercourse. In our subjects, most believed that circumcision could enhance penile hygiene. Circumcision has been suggested as an effective method of maintaining penile hygiene since the time of the Egyptian dynasties. Good personal hygiene may prevent the disorders associated with the uncircumcised state, but there are no scientific data to support this speculation.⁶ However, various studies suggest that genital hygiene needs to be emphasised as a preventive health topic throughout a patient's lifetime⁷⁻¹⁰ and ease of cleanliness is still the most common reason parents choose circumcision in the United States.¹¹ Our results indicate a positive attitude toward circumcision in South Korean men, linking it with hygienic practices. Circumcision in South Korea depends on the perpetuation of cultural beliefs that support it.

CONTRIBUTORS

JHK, conceptualisation of project, study design, collection of data, analysis, interpretation and principal author of manuscript; MEK, conceptualisation, project design, data analysis and interpretation; NKL, conceptualisation, project design, interpretation and reviewing manuscript; YHP, conceptualisation, project design, interpretation and reviewing manuscript. There was no source of funding for this research project. There are no conflicts of interest.

Key messages

- Circumcision was carried out mostly during elementary and middle school years in South Korea.
- The decision whether to circumcise was most often made by parents among circumcised men in South Korea.
- Most believed that circumcision is necessary and circumcised men rather than uncircumcised men felt more positively in South Korea.
- Circumcision in South Korea depends on the perpetuation of cultural beliefs that support it.

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REFERENCES

- 1 **American Academy of Pediatrics Task Force on Circumcision.** Circumcision policy statement. *Pediatrics* 1999;**103**:686-93.
- 2 **Moses S**, Bailey RC, Ronald AR. Male circumcision: assessment of health benefits and risks. *Sex Transm Infect* 1998;**74**:368-73.
- 3 **Kim DS**, Lee JY, Pang MG. Male circumcision: a South Korean perspective. *BJU Int* 1999;**83**(suppl 1):28-33.
- 4 **AAP Committee on Bioethics.** Informed consent, parental permission, and assent in pediatric practice. *Pediatrics* 1995;**95**:314-17.
- 5 **Pang MG**, Kim DS. Extraordinarily high rates of male circumcision in South Korea: history and underlying causes. *BJU Int* 2002;**89**:48-54.
- 6 **Wiswell TE.** Lidocaine-prilocaine cream for pain during circumcision. *N Engl J Med* 1997;**337**:568.
- 7 **Kalcev B.** Circumcision and personal hygiene in school boys. *Med Officer* 1964;**122**:171-3.
- 8 **Oster J.** Further fate of the foreskin: incidence of preputial adhesions, phimosis, and megma among Danish schoolboys. *Arch Dis Child* 1968;**43**:200-3.
- 9 **Herzog LW**, Alvarez SR. The frequency of foreskin problems in uncircumcised children. *Am J Dis Child* 1986;**140**:254-6.
- 10 **Krueger H**, Osborn L. Effects of hygiene among the uncircumcised. *J Fam Pract* 1986;**22**:353-5.
- 11 **Tiemstra JD.** Factors affecting the circumcision decision. *J Am Board Fam Pract* 1999;**21**:16-20.